

What is claimed is:

1. In a MEMS device, the improvement comprising:
a plurality of sensors electrically isolated from one another and positioned to produce signals of substantially identical characteristics; and
circuitry responsive to said plurality of sensors for comparing said signals produced by said plurality of sensors.
2. The MEMS device of claim 1 additionally comprising circuitry for actuating the MEMS device.
3. The MEMS device of claim 1 wherein said MEMS device is implemented using batch-fabrication techniques, and wherein said circuitry and connections between said circuitry and said sensors are implemented using batch-fabrication techniques.
4. The MEMS device of claim 1 wherein said MEMS device is selected from the group consisting of resonators, accelerometers, gyroscopes, antennas, micromotors and ink jet print head microsystems.
5. A MEMS device, comprising:
a plurality of fixed beams arranged symmetrically;
a plurality of movable beams arranged symmetrically;
a first sensor formed by certain of said fixed and movable beams;
a second sensor, electrically isolated from said first sensor, and formed by at least certain other of said fixed and movable beams; and
a circuit responsive to said first and second sensors for comparing signals produced by said first and second sensors.
6. The device of claim 5 additionally comprising circuitry for actuating said plurality of movable beams.
7. The device of claim 5 wherein said MEMS device is implemented using batch-fabrication techniques, said circuit and connections between said circuit and said sensors are implemented using batch-fabrication techniques.
8. In a symmetric MEMS device, the improvement comprising:
a plurality of sensors positioned to produce signals of substantially identical characteristics; and

circuitry responsive to said plurality of sensors for real time comparison of said signals produced by said plurality of sensors.

9. The MEMS device of claim 8 additionally comprising circuitry for actuating the MEMS device.

10. The MEMS device of claim 8 wherein said MEMS device is implemented using batch-fabrication techniques, said circuitry and connections between said circuitry and said sensors are implemented using batch-fabrication techniques.

11. The MEMS device of claim 8 wherein said MEMS device is selected from the group consisting of resonators, accelerometers, gyroscopes, antennas, micromotors and ink jet print head microsystems.

12. A MEMS device, comprising:
a plurality of fixed beams arranged symmetrically;
a plurality of movable beams arranged symmetrically;
a first sensor formed by certain of said fixed and movable beams;
a second sensor formed by at least certain other of said fixed and movable beams; and
a circuit responsive to said first and second sensors for real time comparison of said signals produced by said sensors.

13. The MEMS device of claim 12 additionally comprising circuitry for actuating said plurality of movable beams.

14. The MEMS device of claim 12 wherein said MEMS device is implemented using batch-fabrication techniques, said circuit and connections between said circuit and said sensors are implemented using batch-fabrication techniques.

15. A method, comprising:
actuating a MEMS device; and
comparing the outputs from a first and a second sensor electrically isolated from one another and positioned to produce signals of substantially identical characteristics.

16. The method of claim 15 wherein said actuating is performed mechanically.

17. The method of claim 15 wherein said actuating is performed electrically.

18. The method of claim 17 wherein said electrically actuating comprises interchanging the polarity of a modulation signal applied between pairs of fixed and movable members.

19. The method of claim 15 wherein said comparing is performed in real time.
20. The method of claim 15 wherein said comparing reveals local asymmetry.
21. The method of claim 20 wherein said local asymmetry includes one of a particle bridge, vertical misalignment, variation in local etch and unequal parasitics in the interconnects between the sensors and the circuit for analyzing.
22. A method, comprising:
actuating a MEMS device; and
comparing the outputs from a first and a second symmetrically located sensor in real time.
23. The method of claim 22 wherein said actuating is performed mechanically.
24. The method of claim 22 wherein said actuating is performed electrically.
25. The method of claim 24 wherein said electrically actuating comprises
interchanging the polarity of a modulation signal applied between pairs of fixed and movable members.
26. The method of claim 22 wherein said comparing reveals local asymmetry.
27. The method of claim 26 wherein said local asymmetry includes one of a particle bridge, vertical misalignment, variation in local etch and unequal parasitics in the interconnects between the sensors and the circuit for analyzing.